IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellant : Thomas Apple et al.
Serial No. : 08/736,143
Filed : October 28, 1996
Title : MEDIA WALL FOR DISPLAYING FINANCIAL INFORMATION

Art Unit : 2672
Examiner : Blackman, A.

Board of Patent Appeals and Interferences
Commissioner for Patents
Washington, D.C. 20231

BRIEF ON APPEAL

(1) Real Party in Interest

The NASDAQ Stock Market, Inc.

(2) Related Appeals and Interferences

None.

(3) Status of Claims

Claims 1-38 are in the case. (See Appendix of Claims)

Claims 1-17 and 21-38 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,675,746 ("Marshall") in view of U.S. Patent No. 5,339,392 ("Risberg") and further in view of U.S. Patent No. 5,523,769 ("Lauer").

Claims 18 and 20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Marshall in view of Risberg in view of Lauer and in further view of U.S. Patent No. 5,589,892 ("Knee").

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, Washington, D.C. 20231.

10/22/2001
Date of Deposit

Pamela M. DeThomas
Signature

PAMELA M. DETHOMAS
Typed or Printed Name of Person Signing Certificate

Claim 19 has also been rejected; however, the basis for its rejection has not been explicitly identified.

(4) Status of Amendments

No amendments have been filed after the Final Office Action of May 22, 2001 being appealed.

(5) Summary of Invention

I. Background

The invention relates to an improved display for financial trading information. As described in the Background of the Invention section of the application, alphabetic abbreviations have been used to identify securities and their financial trading information since the days of paper, ticker tape reports. Later technologies have changed the medium of these reports from paper to electronic, but have not altered the means for identifying the financial trading information of a given security.

Many people interested in following securities, including some seasoned stock analysts, find the alphabet abbreviations in these displays difficult to follow. In particular, many people find it difficult to remember more than a small subset of the many alphabetic abbreviations assigned by a given stock exchange. Compounding this problem is the fact that, due to historical anomalies and other factors, the assigned alphabetic abbreviations can appear random and may not even attempt to identify a particular traded security.

II. Appellants' Invention

The inventors of the pending application conceived a new, more easily interpreted display for trading information. In particular, the inventors conceived using graphic symbols, such as firm or corporate logos, instead of alphabetic abbreviations to identify the values of each security's financial trading information in a financial display. Appellants' invention offers several non-obvious and important advantages over the older styled displays, including reduced confusion amongst traders observing the displayed financial information and increased brand awareness for the securities traded on an exchange employing the invention.

As is explained in detail below, the combination of references on which the final rejection is based falls well short of suggesting the claimed invention.

(6) Issues

The issues on appeal are:

1. Whether claims 1 to 38 are unpatentable where appellants' invention represents a classic reversal of long standing conventional practice and wisdom and Marshall, the primary reference used to reject the claims, actually teaches away from the invention.

2. Whether claims 18 to 26, 28 to 29, and 34 are unpatentable where the references do not suggest the desirability of combining what is disclosed therein to meet the terms of the rejected claims.[1]

3. Whether claims 32 to 36 are unpatentable where the references relied upon do not disclose recited limitations.

(7) Grouping of Claims

The claims in each group do not stand or fall together.

(8) Argument

I. Summary of the Examiner's Reasons for the Rejection

In a May 22, 2001 Final Office Action, the Examiner rejected all pending claims by repeating his November 11, 2000 Office Action (paper 16) and adding further comments directed to appellants' response submitted March 1, 2001 and appellants' interview with Examiner on March 29, 2001. The Examiner rejected claims 1-17 and 21-38 as obvious under 35 U.S.C. §103(a) on the basis of Marshall in view of Risberg and Lauer. Claims 18 and 20 were rejected as obvious under 35 U.S.C. § 103(a) on the basis of Marshall in view of Risberg and Lauer and in further view of Knee. The Examiner did not explicitly state a basis for the rejection of claim 19.

[1] The Examiner rejected only claims 18 and 20 in further view of a bit map element disclosed in Knee; however, claims 18-26, 28-29 and 34 each contain a bit map limitation. Herein, the rejection of claims 18 and 20 will be treated as a rejection to claims 18-26, 28-29 and 34.

In the Final Office Action, the Examiner stated:

> There are four [sic three] main points that provides links from Marshall to the secondary references. They are as follows;
>
> (I) The virtual reality world is displayed using sophisticated output devices, such as high resolution screens (see column 1, lines 10-20). This disclosure opens the door for other display devices to utilize the teachings of Marshall's corporate logo including various financial indicators along with the selection of Tokyo and New York stock markets in the virtual reality world where the corporate logo is literally textured on the top or on the side of the polygon (the polygon is equated to the stock's various financial indicators (See column 6, lines 5-43), for example, the ticker display of Risberg et al disclosing various financial instruments and tickers showing trade data (see abstract, lines 17-27).
>
> (II) Marshall teaches stock and commodity brokers and foreign exchange traders that receive continuous streams of data via communications links from financial trading groups, such as Reuters and Dow Jones as (see column 2, lines 57-60). Marshall implicitly alludes to the means of a ticker display (sophisticated output device) for at least financial data (continuous streams of financial data).
>
> (III) The selection and interpretation of the Tokyo and New York stock markets suggest some form of sophisticated output device as a means to display the financial and stock market information (see column 6, lines 10-17). Further, combining the various financial data, continuous financial data streams, polygons juxtaposed corporate logo with various financial indictors with-in a sophisticated output device, such as Risberg et al's ticker device which is capable of receiving/displaying real-time data, the main concept of the instant application is met. *Admittedly, the merits of the office action rest upon the links/motivation between firstly, Marshall and Riserg [sic] et al....* (*Emphasis added,* Paper 19, pages 2-3).

II. Claims 1 to 38 are not obvious where appellants' invention defies long standing conventional practice and Marshall, the primary reference used to reject the claims, actually teaches away from the invention's new direction.

Appellants urge the Board to overturn an obviousness rejection of claims to an invention that, while perhaps appearing simple in hindsight, represents a classic reversal of long standing conventional practice and wisdom. The rejection is particularly unsound because, of the references sought to be combined by the Examiner, one simply restates the prior conventional

wisdom, and another -- the Examiner's primary reference -- actually teaches away from appellants' invention.

The prior art conventional practice is described in Risberg, and is relied upon by the Examiner in each of his rejections. Risberg carries forward the age-old stock ticker format, in which stock values are juxtaposed with alphabetic abbreviations representing the names of companies. For decades now, the proliferation of companies trading their stocks has produced an alphabet soup of often-arbitrary abbreviations that have made the various stock tickers difficult to follow and interpret. Yet, the alphabetic tradition is so engrained in history and culture that its use in financial displays has persisted since the inception of the ticker tape in the late 1860s.

Appellants' invention makes a sharp break from this tradition by displaying graphic symbols, such as a company logo, in juxtaposition with financial instrument values in an electronic display.

The Examiner relies on his primary reference Marshall for the use of company logos in a financial display. But Marshall teaches away from the use of logos in combination with financial values. Instead of actually displaying the values, Marshall creates a whole new "virtual reality" graphic display in which financial values, instead of being displayed, control the shape, location, color and other parameters of graphical "metaphors":

> When abstract information, such as financial information, is displayed in a virtual reality world, it is represented by real world objects in three dimensional form, called metaphors. (Col. 3, lines 52 to 53).

Indeed, Marshall explicitly teaches away from the display of financial values juxtaposed with graphic symbols:

> It is difficult, however, to view numerical data from many sources in real-time to notice overall trends and to consider the distinct underlying characteristics of each security in ones portfolio. Even if the information is displayed in graphical form on each computer screen, trends that concern all sources are difficult to spot. It is also difficult to visualize the behavior of all the dimensions underlying individual security elements. (Col. 2, line 34 to 40).
>
> ***
>
> Further, graphical representations are more likely than tabular representations to show patterns and irregularities because humans are

much better at pattern and scene recognition than at number processing and comparison. (Col. 2, line 65 to col. 3, line 4).

***

Current user interfaces and display technologies for large quantities of financial information are limited. A money manager is unable to "immerse" himself or herself into financial data representing many world markets and manipulate this data graphically. In particular, money managers and financial analyst currently cannot use virtual reality techniques to analyze financial data. (Col. 3., lines 8 to15).

***

The virtual reality world created by the present invention does not map real world objects. Rather, the information displayed in virtual reality world created by the present invention is abstract information about the real world that does not have a physical object equivalent in the real world. (Col. 3, lines 41 to 46).

***

If structured correctly, a virtual reality world has the advantage of presenting a very large amount of information in pictorial form. (Col. 4, lines 16 to18).

Figure 3a in Marshall is illustrative of this virtual reality approach:

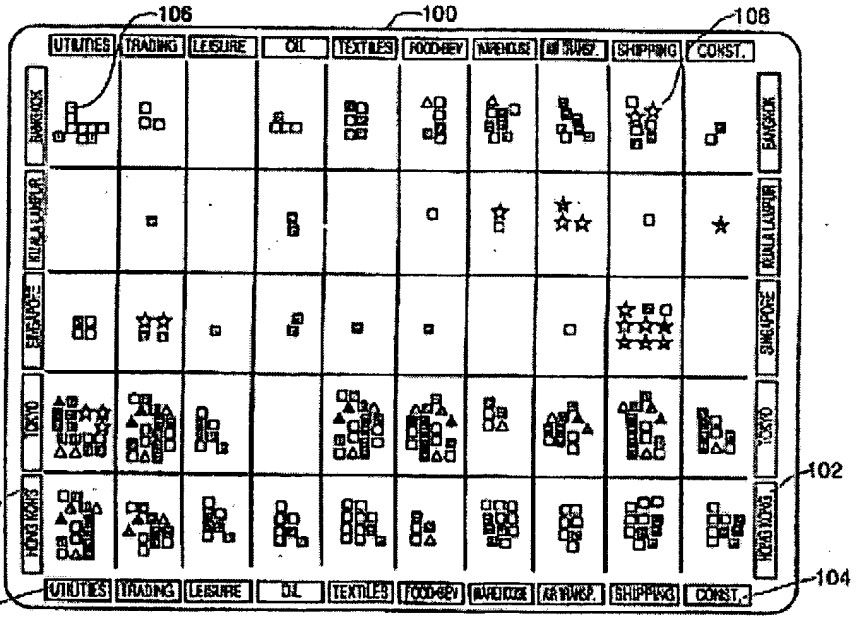

FIG. 3a

Appellants' invention, to the contrary, presents a new and improved display of financial trading information. In particular, each of the independent claims of appellants' invention is

directed toward using *graphic symbols* instead of a security's alphabetic abbreviation in juxtaposition with the *values* or *textual data* of its trading information.

For example: claim 1 requires monitors to "render the *graphic symbols* and *values* corresponding to the financial instruments"; claim 15 requires monitors to display "*graphic symbols* and *values* corresponding to the financial instruments"; claim 16 requires displaying "*graphic symbols* and *values* corresponding to the financial instruments in the feed"; claim 17 recites scrolling market data comprising "a *company logo* juxtaposed with financial instruments including real-time *textual data*"; claim 27 recites displaying market data comprising "a *company logo* and stock ticker real-time *textual data* associated with the company logo"; claim 32 requires displaying a moving financial instrument ticker of "*graphic symbols* juxtaposed with corresponding *values* of the financial instruments"; and finally claim 36 requires displaying "*graphic symbols* juxtaposed with *values* corresponding to the financial instruments". (*Emphasis added*). Thus, each of appellants' independent claims is directed toward using graphic symbols, such as firm or corporate logos, to identify the actual values or textual data of a security's financial trading information.

The Examiner's rejections are contrary to fundamental doctrines governing the resolution of obviousness questions. Inventions are *not* obvious when they defy long standing conventional practice, and when the prior art teaches away from the invention's new direction.

At law:

> [P]roceeding contrary to the accepted wisdom is "strong evidence of unobviousness."

In re Hedges, 783 F.2d 1038, 1041, 228 USPQ 685 (Fed. Cir. 1986) *citing W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1552, 220 USPQ 303 (Fed. Cir. 1983).

Indeed, the years of use of conventional stock tickers and corporate logos by those of skill in the art without combining their properties weighs *strongly against* a finding that the combination is obvious. *See Arkie Lures, Inc. v. Gene Larew Tackle, Inc.*, 119 F.3d 953, 958 (Fed. Cir. 1997) (reversing a district court decision where "years of use of salty bait and of plastic lures, without combining their properties, weighs on the side of the unobviousness of the combination").

In addition, there is no suggestion to combine if a reference teaches away from its combination with another source. A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be led in a direction divergent from the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. *Tec Air, Inc. v. Denso Manufacturing Michigan Inc., 192* F.3d 1353, 1360, 52 USPQ2d 1294 *citing In re Gurley* 27 F.3d 551, 553, 31 USPQ2d 1130 (Fed. Cir. 1994).

Here, the entire thrust of Marshall leads one of ordinary skill *away from* a display having financial values or technical data, as claimed by appellants, and *toward* a display having information displayed in pictorial form. (Col. 4, lines 16-18). As such, Marshall teaches one of skill to take a direction divergent from the path taken by appellants.

By ignoring these fundamental legal principles, the Examiner has resorted to hindsight reconstruction, an additional violation of settled authority:

> It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. [15] This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."[16] *In re Fritch*, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992).
>
> ---
>
> [15] *In re Gorman*, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). See also *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985).
>
> [16] *In re Fine*, 837 F.2d at 1075, 5 USPQ2d at 1600.

As the Federal Circuit Court of Appeals said in *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614 (Fed. Cir. 1999):

> Measuring a claimed invention against the standard established by §103 requires the oft-difficult but critical step of casting the mind back to the time of the invention, to consider the thinking of one of ordinary skill in the art, guided only by the references themselves.... Close adherence to this methodology is especially important in the case of less technologically complex inventions, where the very ease with which the inventions can be understood may prompt one 'to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.'

> Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a shown of the teaching or motivation to combine prior art references.

"The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification" *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Accordingly, the rejection to claims 1-38 should be reversed.

III. Claims 18 to 26, 28 to 29, and 34 are patentable where the references do not suggest the desirability of combining what is disclosed therein to meet the terms of the rejected claims.

A number of the rejected dependent claims contain additional limitations that further weigh in favor of non-obviousness. In particular, dependent claims 18-26, 28-29, and 34 each require a bit map data corresponding to corresponding to a company logo.

In determining obviousness, "[t]he claimed invention must be considered as a whole, and the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination." *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick*, 221 USPQ 481, 488 (Fed. Cir. 1984).

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under Section 103, teachings of references can be combined only if there is some suggestion or incentive to do so. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 221 USPQ 929, 933 (Fed. Cir. 1984) (emphasis in original, footnotes omitted).

"The critical inquiry is whether 'there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.'" *Fromson v. Advance Offset Plate, Inc.*, 225 USPQ 26, 31 (Fed. Cir. 1985).

"The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

A review of Knee fails to provide any motivation for its combination with Marshall and Risberg for rejecting claims 18 and 20.[2] Rather, Knee, like Risberg shows a conventional display of financial information in FIG. 32 and no suggestion or motivation is found for using bitmap data in the manner taught and claimed by appellants. Accordingly, claims 18-26, 28-29, and 34 are non-obvious over the art of record.

IV. Claims 32 to 36 are patentable for the additional reason that the references relied upon do not disclose recited limitations.

Claims 32 to 36 contain additional limitations that support their patentability. For example, claim 32 requires accessing graphic symbols in accordance with extracted instrument identifiers and claim 36 requires retrieving graphics symbols associated with extracted identifiers. The references relied upon by the examiner do not disclose, either explicitly or inherently, these limitations. For that reason, claim 32, its dependant claims 33 to 35 and claim 36 are patentable over the cited references.

Conclusion

For the foregoing reasons, it is submitted that the Examiner's rejection of claims 1 to 38, claims 18 to 26, 28 to 29, and 34, and claims 32 to 36 was erroneous, and reversal of the decision is respectfully requested.

The brief fee of $320 is enclosed. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 10/22/2001

Denis G. Maloney
Reg. No. 29,670

Fish & Richardson P.C.
225 Franklin Street
Boston,Massachusetts 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906

[2] And likewise claims 19, 21-26, 28-29, and 34

Appendix of Claims

1. A system for dynamically displaying graphic symbols and value information for financial instruments comprising:

an input port to receive a feed containing identifiers and corresponding values of financial instruments;

a filter to extract from the feed the identifiers and corresponding values of the financial instruments;

an input processor comprising a memory to store the extracted financial instrument identifiers and corresponding values;

a database that stores graphic symbols that represent entities whose financial instruments are identified by the instrument identifiers in the feed and that can be accessed by financial instrument identifiers to provide graphic symbols corresponding to the financial instrument identifiers in the feed;

a display controller for forming display signals with the graphic symbols and values corresponding to the financial instruments in the feed; and

a video wall including

a plurality of individual monitors arranged into a composite display, and with the display controller receiving the display signals to render the graphic symbols and values corresponding to the financial instruments in the feed on the individual monitors.

2. The system of claim 1 wherein the feed is a stock ticker feed and the financial instruments are stocks traded over an exchange.

3. The system of claim 2 wherein the values include the current trading price of the stocks.

4. The system of claim 3 wherein the graphic symbols include corporate logos for companies issuing the stocks.

5. The system of claim 4 further comprising:

a control system and wherein the control system processes the display signals such that the video wall displays a moving ticker display of corporate logos and values of trades in stocks.

6. The system of claim 1 wherein the display controller further includes a plurality of display processors coupled to the input processor and each provided from a respective one of the plurality of display signals.

7. The system of claim 6 further including a network to couple the input processor to the plurality of display processors.

8. The system of claim 7 further including a control processor coupled to the display processors and the input processor via the network to synchronize the display processors.

9. The system of claim 1 wherein the display signals are fed to the individual monitors to render a different graphic symbol and associated financial data on each of the monitors.

10. The system of claim 6 wherein the feed is a stock ticker feed, and wherein the display processors include stock ticker display processors to display a moving stock ticker on the video wall.

11. The system of claim 1 wherein the video wall further includes video wall processors for processing the display signals for display on the monitors.

12. The system of claim 1 further including a plurality of routing switches coupled between the display controller and the video wall for controlling the routing of the display signals to the monitors.

13. The system of claim 1 further including a video source, coupled to the routing switches, for producing video signals for display on the video wall.

14. The system of claim 1 further including:

an audio source for producing audio signals; and

a speaker to produce the audio signals..

15. A system for dynamically displaying financial information comprising:

a first input port for receiving a first feed containing identifiers and corresponding values of financial instruments;

a second input port for receiving a second feed containing financial data;

a filter to extract from the first feed the identifiers and corresponding values of the financial instruments and from the second feed the financial data;

a memory to store the extracted financial instrument identifiers, corresponding values, and financial data;

a data structure associating the extracted financial instrument identifiers with corresponding graphic symbols, the graphic symbols being publicly acknowledged identifiers of entities whose financial instruments are identified by the instrument identifiers in the feed;

a video processor to produce a first display signal with the graphic symbols and values corresponding to the financial instruments in the feed and a second display signal with the financial data; and

a video wall including

a plurality of individual monitors arranged into a composite display to receive the first and second display signals and display the financial data and the graphic symbols and values corresponding to the financial instruments.

16. A method for dynamically displaying graphic symbols and value information for financial instruments on a video wall including a plurality of individual monitors arranged into a larger display, the method comprising:

receiving a feed containing identifiers and corresponding values of financial instruments;

extracting from the feed the identifiers and corresponding values of the financial instruments;

storing the extracted financial instrument identifiers and corresponding values;

using the extracted financial instrument identifiers to find graphic symbols that are logos of entities associated with the extracted identifiers;

forming a display signal with the graphic symbols and values corresponding to the financial instruments in the feed; and

displaying on the video wall the graphic symbols and values corresponding to the financial instruments in the feed.

17. A system for displaying stock ticker information comprises:

a display; and

an electronic device that produces a signal that when fed to the display scrolls market data across the display, said market data comprising a company logo juxtaposed with financial information including real-time textual data associated with financial instruments of entities identified by instrument identifiers in a feed received by the system.

18. The system of claim 17 wherein the electronic device is a computer, and the computer is responsive to a source containing financial information and a source that contains bit map data corresponding to the company logo.

19. The system of claim 18 wherein the financial information includes company identifiers and wherein the company identifiers are used to access bit maps corresponding to the company logos.

20. The system of claim 18 wherein the source of bitmaps is contained in a database of logo bitmaps.

21. The system of claim 18 wherein the source containing financial information is a database of financial data.

22. The system of claim 18 wherein the real-time textual data scrolled on the display are updated according to market conditions.

23. The system of claim 22 further comprising a filter coupled to a source containing financial data, said filter extracting the real-time textual data and placing the real-time textual data in a database.

24. The system of claim 17 further comprising a correlator that correlates a bitmap of a company logo with financial data contained in a database.

25. The system of claim 24 wherein the real-time textual data scrolled on the display are updated according to market conditions.

26. The system of claim 24 further comprising a filter coupled to a source containing financial data, said filter extracting the financial data and placing the financial data in a database.

27. A method for displaying stock ticker information comprises:

displaying market data across an electronic monitor, said market data comprising a company logo and stock ticker real-time textual data associated with the company logo, the real-time textual data juxtaposed with the company logo.

28. The method of claim 27 wherein displaying associates a data source containing financial information and a data source that contains bit map data corresponding to the company logo.

29. The method of claim 28 wherein the financial information includes company identifiers and wherein the company identifiers are used to access bit maps corresponding to the company logos.

30. The method of claim 27 wherein displaying market data occurs with market conditions.

31. The method of claim 27 further comprising filtering the source containing financial data, and extracting the data to place the data in a database.

32. A method for displaying stock ticker information comprises:

extracting from a data feed having values of financial instruments, instrument identifiers and the values of the financial instruments;

accessing graphic symbols in accordance with the extracted instrument identifiers;

associating the graphic symbols with the corresponding values of the financial instruments to produce a financial instrument ticker; and

displaying the financial instrument ticker, as a moving financial instrument ticker of graphic symbols juxtaposed with corresponding values of the financial instruments across a video display.

33. The method of claim 32 wherein the data feed of values includes identifiers that correspond to the financial instruments, and wherein accessing comprises:

accessing the graphic symbols by using the identifiers to associate the graphic symbols with the financial data.

34. The method of claim 32 further comprising:

correlating a bitmap of a company logo with financial information contained in a database.

35. The method of claim 32 further comprising

updating data on the financial instrument ticker in accordance with current market conditions.

36. A method for dynamically displaying graphic symbols and value information for financial instruments, the method comprising:

receiving a feed containing identifiers and corresponding values of financial instruments;

extracting from the feed the identifiers and corresponding values of the financial instruments;

retrieving graphic symbols associated with the extracted identifiers;

forming a display signal including the retrieved graphic symbols and values corresponding to the financial instruments; and

displaying on a monitor the graphic symbols juxtaposed with values corresponding to the financial instruments.

37. The system of claim 17 wherein the market data corresponds to trades in financial instruments and the company logo is associated with financial information corresponding to a market price for the financial instrument.

38. The method of claim 27 wherein the stock ticker information comprises trades of financial instruments.